OBJECTIVES: Bisphosphonates are anti-osteoporosis medication. This study evaluated the cost-effectiveness of the use of bisphosphonates in secondary prevention of hip fracture in a naturalistic setting from the payer perspective. **METHODS:** Using the 1997-2007 Taiwan's National Health Insurance research database, we identified patients with the first-ever hospitalization experience for hip fracture between 1998 and 2000. The patients who received bisphosphonates within the first year of hip fracture were grouped into "bisphosphonates cohort"; those who received no anti-osteoporosis medications were grouped into "untreated cohort". The date of the hip fracture served as the date of cohort entry. The two cohorts were followed up for hip re-fracture and osteoporosis-related medical costs. A Cox regression model was used to compare the risk of hip re-fracture and a generalized linear model was used to compare the osteoporosis-related costs between the cohorts. **RESULTS:** Among 3,427 patients identified, 161 received bisphosphonates and 3,266 were left untreated. The mean follow-up period of the bisphosphonates cohort and the untreated cohort were 5.11 and 4.72 years. There was no significant difference in the risk of re-fracture between the two groups (adjusted hazard ratio = 1.24, 95% CI 0.87-1.78, p=0.227). However, the osteoporosis-related costs of the bisphosphonates cohort were significantly higher than the untreated cohort (the average incremental cost was 29,227 point values, 95% CI 14,890-43,564, p<0.001). Further analysis showed that the use of bisphosphonates is likely to be cost-saving from a one-year perspective; the probability of cost-saving was 73.8%. **CONCLUSIONS:** This study found the use of bisphosphonates for the secondary prevention of hip fracture was cost-ineffective in a naturalistic setting.

PMS58

COST EFFECTIVENESS OF TOFACITINIB AS SECOND LINE TREATMENT VS USING BIOLOGICAL THERAPIES IN THE TREATMENT OF MODERATE RHEUMATOID ARTHRITIS AFTER FAILURE OF DMARDS IN GUATEMALA IN 2014

Garita-Aguilar M[1], Peralta-Acon M[1], Chavez-Perez N[2]

[1]*Pfizer Central America and Caribbean, San José, Costa Rica,* [2]*Insitituto Guatemalteco del Seguro Social, Ciudad de Gutemala, Guatemala*

BACKGROUND: Rheumatoid arthritis (RA) is a common autoimmune disease associated with considerable morbidity rates and diminished quality of life. For patients who have an inadequate response to disease-modifying antirheumatic drugs (DMARDs), the use of biologic agents and JAK inhibitor has proved to be effective as second-line treatment. [1]. **OBJECTIVES:** To evaluate the cost-effectiveness of Tofacitinib as second line treatment vs using the standard biological therapies as second line treatments in patients with moderate RA after failure of DMARDs in Guatemala Health Care System (IGSS) in 2014. **METHODS:** A patient-level simulation model was used to evaluate costs and health benefits. This cost-effectiveness model compares two sequences of treatments: one using Tofacitinib as second line treatment followed by biological therapies (Tofacitinib-Infliximab-Adalimumab-Etanercept-Tocilizumab-Rituximab-salvage therapy) and the other using the same biologic therapies scheme but excluding Tofacitinib; these schemes are defined according to experts opinion from IGSS [2]. All patients received concomitant treatment with methotrexate. Model inputs are: age, weight, initial HAQ score, severe adverse events (SAE) and clinical response to short and long term treatment; randomized controlled trials were used as a source information when local information was not available [3,4]. HAQ scores were used to calculate utilities, measured in QALYs [5,6,7]. Only direct costs were considered using institutional databases from 2014. [8]. Annual discount rate was 5%, the time horizon is to lifetime. **RESULTS:** Total cost and total QALY per patient in a lifetime period are estimated to be $213,009 and 8.83 QALY for the treatment sequence with Tofacitinib; $222,145 and 8.52 for treatment sequence with biologic therapy only. The cost savings from the treatment sequence with Tofacitinib are 15.2% in the first year, 15.0% in 5 year and 10.7% in ten years. **CONCLUSIONS:** For the IGSS, the sequence initiating with Tofacitinib is a cost-saving alternative compared with the standard biologic therapy

PMS59

ASSOCIATION BETWEEN OSTEOARTHRITIS AND WORKPLACE ABSENTEEISM

Menon J, Thomas III J

Purdue University, West Lafayette, IN, USA

OBJECTIVES: Osteoarthritis is the most common form of arthritis, affecting 27 million individuals in the United States. This study assessed incremental workplace absenteeism associated with osteoarthritis over one year. **METHODS:** Data from the 2011 Medical Expenditure Panel Survey (MEPS) was used for analyses. Sample inclusion criteria were being employed and at least eighteen years old. Individuals suffering from osteoarthritis were identified based on International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnosis code of 715 in claims. Exclusion criteria were missing information on any variable. A zero inflated negative binomial regression was used with annual days missed at work as the response variable and a binary variable indicating osteoarthritis as the primary predictor. Covariates in the model adjusted for age, sex, education, race, marital status, occupation, region, insurance, hypertension, diabetes, anxiety, asthma, degree, hyperlipidemia and Charlson Comorbidity Index score. To account for the complex survey sample, sampling weights were incorporated in the model. Analyses were carried out using STATA for UNIX version 12.1 with an a priori alpha level of 0.05. **RESULTS:** Among 10,597 individuals in the sample, 386 individuals had osteoarthritis. One-half of the sample was 47 years or younger, 54.43% were females, and 70% were Caucasians. The expected number of days absent for individuals with osteoarthritis was 1.36 times the expected number of days absent for individuals without osteoarthritis (p=0.038). Incremental annual days missed at work was 2.08 days for individuals with osteoarthritis as compared to individuals without osteoarthritis (p=0.037). Among covariates that were significant, expected number of days absent for individuals with hypertension was 1.37 times the expected number of days absent for those without hypertension (p<0.01). The expected number of days absent for females was 1.54 times the expected number of days absent for males (p<0.001). **CONCLUSIONS:** Osteoarthritis diagnosis is associated with significant incremental work absenteeism.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PMS60

BIOLOGIC DISCONTINUATION IN RHEUMATOID ARTHRITIS: EXPERIENCE FROM CANADIAN CLINICS

Choquette D[1], Coupal L[1], Laliberté M[2], Desjardins O[2]

[1]*Institut de Rhumatologie de Montréal, Montreal, QC, Canada,* [2]*AbbVie, Saint-Laurent, QC, Canada*

OBJECTIVES: The purpose of this study was to describe biologic discontinuation and assess the predictors of discontinuation in Canadian rheumatoid arthritis (RA) patients. **METHODS:** In this prospective cohort study, adult patients included in the RHUMADATA database with a diagnosis of RA and treated with at least one biologic since 2003 were selected. The RHUMADATA database includes clinical, laboratory and socioeconomic information of patients with rheumatic diseases followed in three Canadian rheumatology centers (Montreal, Quebec and Rimouski). Patients were followed for three years after therapy initiation or until treatment discontinuation, as measured using pharmacy records. Time to discontinuation and predictors of treatment discontinuation were explored using Cox proportional hazards models. **RESULTS:** A total of 623 eligible patients were treated with at least one biologic. The average age was 53.2 years (SD=12.4), 77% were women and patients had been diagnosed for an average of 7.7 years. The average time on treatment for the first biologic agent was 1.7 years (SD=2.1). In all, 233 (37%), 326 (52%), 405 (65%), and 438 (70%) patients had stopped their first biologic after 6, 12, 24, and 36 months, respectively. In time-to-event analyses (Cox proportional hazard models), type of work [part time vs. full time; hazard ratio (HR): 1.57; 95% confidence interval (CI): 1.05-2.34] and income [$20,000 to $40,000 vs. less than $20,000 (HR: 1.35; 1.01-1.80) and $80,000 to $100,000 vs. less than $20,000 (HR: 2.16; 1.23-3.80)] were significantly associated with biologic discontinuation over the complete treatment duration. The number of disease-modifying antirheumatic drugs used (HR: 0.89; 0.80-0.99) and use of methotrexate (yes vs. no; HR: 0.80; 0.64-0.99) were associated with a reduced risk of biologic discontinuation. **CONCLUSIONS:** In this real-life Canadian study, high biologic discontinuation rates were observed. This study also suggests that many clinical and socioeconomic variables are predictors of biologic discontinuation in RA patients.

PMS61

PATIENT- AND PHYSICIAN-REPORTED MOTIVATIONS FOR MEDICATION NON-ADHERENCE OR SWITCHING IN RHEUMATOID ARTHRITIS

Smalarz A[1], Prado M[2]

[1]*Strategic Market Insight, Acton, MA, USA,* [2]*Real Health Data, Santa Cruz, CA, USA*

OBJECTIVES: Rheumatoid arthritis (RA) is a chronic inflammatory disorder that affects the lining of joints, causing painful swelling that can result in bone erosion and joint deformity. Patient adherence to medications can help reduce or lessen inflammation; however, non-adherence and frequent switching are recognized problems in patients with RA. The objectives of this study are to better understand patients' reason(s) for being non-adherent and/or switching and physicians' reasons for recommending a switch. **METHODS:** We extracted 300 records for RA patients from a unique database of physician-patient interactions (RealHealthData). Using Atlas.ti, we analyzed these records to analyze trends for medication switches and/or non-adherence, i.e., when, why and how patients stopped or switched their medication. In addition, we analyzed physicians' noted reasons for switching. **RESULTS:** On average, patients were 53 years old (±10). Patients' functional disability was similar to the general RA population, with a noted variability of swelling and joint pain. The medications prescribed to the patients included: methotrexate (22%), Orencia (18%), Remicade (14%), Plaquenil (14%), Humira (13%) Enbrel (8%), Acterma (6%) and CellCept (5%). Patients' reported reasons for switching and/or non-adherence included: increased pain/swelling (34%), feeling the medication is not working and/or continual progression of symptoms (35%) and adverse reaction to medication such as itching (11%) and GI complications (11%). Of the physicians who recommended switching, reasons for switching their patients' medications included potential toxicities associated with drugs (46%) and observed disease progression (34%). **CONCLUSIONS:** It is critical to better understand patients' and physicians' reasons for switching medication for chronic disease like RA. The more we know about reasons for behavior, the more we can actively plan and organize research, development and outreach that is patient-centric and clinically meaningful. Our results demonstrate that using physician-patient interaction data can add tremendous value to outcomes researchers and healthcare decision makers.

PMS62

IMPACT OF RHEUMATOID ARTHRITIS ON SELF-REPORTED WORK PRODUCTIVITY, DISEASE SEVERITY AND ADHERENCE IN AN EMPLOYED POPULATION

Kamal KM[1], Ghosh S[1], Koerner P[1], Miller R[2], Parekh MH[1], Khairnar R[1]

[1]*Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA, USA,* [2]*Walgreens Specialty Pharmacy, Carnegie, PA, USA*

OBJECTIVES: To study the impact of rheumatoid arthritis on self-reported work productivity, disease severity and adherence in an employed population **METHODS:** A total of 1,041 patients with rheumatoid arthritis (RA) were identified from a list of 3000 patients (18-65 years) from a Specialty Pharmacy database. Survey to the RA sample included the Work Productivity and Activity Impairment (WPAI) questionnaire, Health Assessment Questionnaire (HAQ) and Modified Morisky Scale (MMS). A demographic survey was also administered. Survey responses were linked to clinical measures obtained from the Specialty Pharmacy database. Univariate and multivariate regression analyses were conducted using SPSS version 22.0. **RESULTS:** The response rate was 30.45% (n=317) and 57.4% (n=174) reported as being employed. Mean age and disease duration of employed patients were 54.09+9.97 years and 15.21+9.11 years, respectively. Employed patients were mostly female (66.5%), mar-